From: Jon Christensen
To: Miller, Kevin
CC: Bahr, Pam; Bloomfield, Wes; Crop, Nathan; Finlinson, Jerry; Hintze, ...
Date: 7/2/2004 9:54 AM
Subject: Re: Phoenix Isolator and Other ID Fan Drive Comments

Presently there is an isolator installed between the Alstom ID Fan Drive and the ABB DCS system because both systems were providing voltage with the 4-20 mA current signal. You will need to write a work order for I & C to remove this isolator when the existing Phoenix "source" type isolator is replaced with the new Phoenix "sink" type isolator.

After the isolator is replaced, the complete speed control system will have to be calibrated by placing the fan in manual and varying the fan speed while allowing the other ID fans, in auto, to provide the required draft. This work will require careful planning and a bid with Operations. This work, including tightening all of the water connections should not take over 10 to 12 hours.

On the other hand Alstom estimates 12-15 days to modify the two regulator cabinets on the Unit 2 'D' fan to match the layout on the remaining seven drives. While I understand the cabinet layout, on the Unit 2 'D' fan, is not ideal it is workable. I modified the layout on the remaining drives to provide easier access for maintenance. We need to carefully consider the costs associated with modifying the 'D' drive and the risks of having a channel (link) out of service for that long.

Is Wes willing to commit two to three electricians for up to three weeks to change out the regulator cabinets?

I talked to John Bradley this morning, he is doubtful that they could even make the October date, but we may be able to make the modification in Jan 2006 or Oct 2006, if it is justified.

Alstom is currently focusing all of their efforts on the two drive systems for Unit 1.

I talked to Bret Kent, earlier this week, about installing the Unit 1 water system now instead of waiting until the outage. He said routing the new piping before the existing HVAC duct is removed is difficult but he would go out and look to see if it was possible. He felt like part of the delays, during the Unit 2 outage, were caused by getting the Contractor started. This outage should be better because everyone has a clearer understanding of the work scope and schedule.

On another note, it appears the mixed bed deionizing resin is approaching the end of its useful life on the 1D1 VFD. Typically we expect the resin to last about 6 months (when you include factory testing this resin has been in service since January) . The factory sets the conductivity alarm point at 0.5 microSiemens (reset at 0.3 microSiemens and trip at 1.0 microSiemens). These values are shown in the new drive instruction books Volume 1, Part 3, Section 1 drawing 2001-106 and Volume 2, Part 10 Commissioning Instructions page 7.

Yesterday, we reset the alarm values to 0.6 microSiemens (reset at 0.4) because the resin bed was taking over 30 minutes to drop the conductivity below 0.3. The resin tank should be replaced with the spare tank, provided by Alstom, when the resin bed can not drop the conductivity below 0.4 microSiemens in 30 minutes.

We can order new tanks with resin, send the tanks back to Anderson Chemical for replacement of the resin or order resin and replace the resin ourselves. I believe it would be wise to stock resin as a min/max item in the warehouse and replace it ourselves.

There is ordering information and a change out procedures in the Instruction Books. If you have any

questions or need additional information please let me know.

>>> Kevin Miller 7/1/2004 4:58:18 PM >>>
I was talking to Jon Bradley before he left the site. Since we are going to change this part out in October when we go in to tighten the hose clamps, he decided he wants to go ahead and change them in both channels. He's confident they'll work. He will order one next week and ship it to us. When you get it, let me have it. I'll also arrange for I&C to calibrate.

We also talked about the retrofit on both U2 "D" channels to match the 14 drives now committed. His plan, if we agreed to the upgrade, was to send us the new sheet metal panels all punched and drilled. We would then have to remove all the wiring, all the devices, then remount all the devices onto the new panels, then rewire. That would be quite tedious. If we did it online, you are talking about too long for the channel to be oos. If you did that during the outage, it is too much time to commit. After all, the next U2 outage we will be installing the 6 remaining channels. If we add "D" to the mix, all U2 drives will be unproven.

I suggest the following. Do not touch the "D" drives during the 2006 outage. You have to have one operating fan for ventilation of the boiler anyway. Do the conversion this winter (2004) but with a twist. To save time, I suggest having Alstom prepare two regulator cubicles (three panels per channel) as if installing them in drives at the factory. Instead, ship them to us. Then we take out one channel at a time. Determinate all the wires, exchange the three panels with the three new panels. Rewire. That way we are only doing the wiring work. Bradley insured me that all the I/O checks and other required recommissioning work can be done on the idle channel with the fan in service from the other channel excpet for maybe just one or two small items. We would then ship the panels back to Alstom, they would then remove all the components and install them in a future drive. In essence, it transfers the labor of the device changing to them in exchange for less down time for us.

Jon indicated they will be making procurements in the next couple of weeks for the regulator material. If we wanted to do such a plan, he would like to include it in the current release to ensure identical installations. Anyway, please consider and perhaps you could talk to Jon.

Final thought. Now that your mechanical counterparts have a plan for the cooling water piping, is there any chance that work could proceed now to get Unit 1 roughed in. It will be more work than Unit 2 because the drives are farther from the source. The room will be busy enough with four drives in progress. I would love to have AP&F out of the way before we ever start.

Thanks, Kevin